



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/555,285	08/09/2006	Ludwig Schieferstein	C 2834 PCT/US	3021
23657	7590	08/08/2007	EXAMINER	
COGNIS CORPORATION PATENT DEPARTMENT 300 BROOKSIDE AVENUE AMBLER, PA 19002			REDDY, KARUNA P	
		ART UNIT		PAPER NUMBER
		1713		
		MAIL DATE	DELIVERY MODE	
		08/08/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/555,285	SCHIEFERSTEIN ET AL.
Examiner	Art Unit	
Karuna P. Reddy	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 12-30 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 12-30 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>11/2/2005</u>	6) <input type="checkbox"/> Other: ____

DETAILED ACTION

1. Preliminary amendment filed on November 2, 2005 is made of record. Claims 1-11 are cancelled, claims 12-30 are pending in the application.

Claim Objections

2. Claim 19 is objected to because of the following informality: Claim 19 recites "... the nonaqueous **solvent**...." and there is no antecedent basis for the term "solvent". Although it is understood that applicant suggests "... the nonaqueous **medium**...." as in claim 12, the language in claims should be consistent. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12-15, 17-18, 20, 23-25 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by West et al (US 4, 327, 196).

West et al disclose a cured polyester resin using mono-substituted sulfonyl hydrazide blowing agent, peroxide curative and certain metal promoters

(abstract). Suitable peroxides include methylethyl ketone hydroperoxide (column 3, lines 23-34). The preferred primary promoters are salts based on copper. As secondary promoters are suitable organic salts obtained from cobalt, iron etc (column 4, lines 1-7). Suitable sulfonyl hydrazides include toluene-sulfonyl hydrazide (column 4, lines 21-48). The liquid unsaturated polyester resin in the composition comprises a linear or slightly branched polyester resin and an ethylenically unsaturated monomeric compound (column 2, lines 1-4). Examples of ethylenically unsaturated monomers employed include acrylates and methacrylates like methyl methacrylate (column 2, lines 35-38). See table 1 (example 1 and 6) for weight percentages of sulfonyl hydrazide, peroxide and metal promoters which read on claims 12, 14 and 24. In example 1 silicone-glycol liquid copolymer reads on the non-aqueous medium.

Therefore, West et al anticipate the instant invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 12- 27 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roper (US 3, 410, 719).

Roper discloses a catalyst system for preparing air curable coating compositions from polymerizable acrylic materials (column 2, lines 3-5). Compounds which can be air cured include esters of acrylic acid as well as alkyl substituted acrylic acid i.e. methacrylic acid and ethacrylic acid (column 2, lines 35-37). Hydrazine derivatives which comprise first part of the catalyst system include acetylphenyl hydrazine (column 3, line 20-43). The second component of the novel catalyst system is selected from the group consisting of organic peroxides and soluble organic salts of polyvalent metals (column 3, lines 45-47).

Suitable examples of peroxides include methyl ethyl ketone peroxide and cumene peroxide (column 3, lines 64-67). Polyvalent metal salts include copper, vanadium, molybdenum, iron and cobalt (column 4, lines 18-22). Organic metal salts should have sufficient solubility to give at least about 0.00001% by weight, soluble metal ion. The organic peroxides should have a solubility of at least

0.1% by weight (column 3, lines 50-56). The amount of hydrazine used in one of the embodiments is 0.01 to 4.0 weight percent (column 7, lines 9-10).

The process comprises admixing an acrylic ester, 0.01 to 4.0 wt% of hydrazine derivative and an organic peroxide, the weight ratio of organic peroxide to hydrazine derivative is between about 2:1 to about 20:1. The admixture is coated as a thin film on a substrate and heated to between 10⁰C and 100⁰C (column 7, lines 7-17). In a different embodiment, the process comprises admixing an acrylic ester, 0.01 to 4.0 wt% of hydrazine derivative and a soluble organic salt of a polyvalent metal, the mole ratio of hydrazine derivative to polyvalent metal being between 10:1 to about 10,000:1 is between about 2:1 to about 20:1. The admixture is coated as a thin film on a substrate and heated to between 10⁰C and 100⁰C (column 7, lines 18-30). See example 2 wherein Varsol is used as a non-aqueous medium and comprises aromatic hydrocarbons¹.

The prior art differs in not having all components of the starter system in one embodiment.

However, it is well settled that one of ordinary skill in the art can expect a combination of two known to work in an additive or cumulative manner. The combination of two compositions, each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition that is to be

¹ The US 2, 800, 464 of Miller et al is included as a reference to Varsol as a hydrocarbon mixture of aromatics, paraffins and naphthalenes.

used for the same purpose may be *prima facie* obvious. See *In re Kerkhoven*, 626 F 2d. 846, 850, 205 USPQ 1-69, 1072 (CCPA 1980).

As to heating the polymerizable mixture to a temperature below 80⁰C in claim 21 or below 70⁰C in claim 29 , it is interpreted by the examiner as room temperature.

8. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roper (US 3, 410, 719) in view of Miller et al (US 2, 800, 464).

The discussion with respect to Roper in paragraph 7 is incorporated herein by reference.

The prior art is silent with respect to toluene or xylene as the non-aqueous solvent.

However, Roper has used Varsol as non-aqueous medium in one of its embodiments (see example 2) and Miller has shown that toluene is functionally equivalent to Varsol in its ability to act as solvent in polymerization processes. Therefore, it would have been obvious to one skilled in the art at the time invention was made to use toluene in place of Varsol in the composition of Roper and arrive at the instant claim because of their functional equivalence, motivated by expectation of success.

Conclusion

The "X" reference (US 4, 327, 196A) from the international search report has been considered and used in the rejection. The other "X" reference (US 2,

686, 775) has been considered but was not applicable because it was an aqueous composition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karuna P. Reddy whose telephone number is (571) 272-6566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karuna P Reddy
Examiner
Art Unit 1713

/KR/


DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700